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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/380,106	11/24/99	GOETHALS	K DECLE2.001AF

020995 HM12/0424
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EXAMINER

PARA, A

ART UNIT	PAPER NUMBER
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1661

DATE MAILED: 04/24/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/380,106	Applicant(s) GOETHALS ET AL.	
	Examiner Annette H. Para	Art Unit 1661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- | | |
|--|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 20) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 1661.

The preliminary amendment filed on August 23, 1999 has been entered.

Abstract

This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1,2,4,6,7 are rejected under 35 U.S.C.102(b) as being anticipated by Roussaux.

Roussaux inoculated peas with *C.fascians* (page 26). Excised shoots then were placed in culture medium with antibiotic (page 26) as recited in claim 2. Roussaux inoculated *Corynebacterium fascians* which is the other name for the microorganism *Rhodococcus fascians* recited in claim 4. Once the bacteria were eliminated, shoots grew normally. Roussaux employed seed and different organs as plant material as defined in claim 6. In his study Roussaux used pea, which is a member of the Fabaceae family as recited in claim 7.

Claim 1,2,6,7,9, are rejected under 35 U.S.C.102(b) as being anticipated by Mantell et al. Mantel et al. teach micropropagation involving the preparation of the explant, setting it in contact with cytokinin for the multiplication of axillary shoots as defined in claim 1, the transfer to a medium with a reduced or removed cytokinin level as defined in claim 2, and the transfer of the shoot to soil by various gradual weaning processes(page 132) as defined in claim 9. Cytokinins, including zeatin, can be derived from *C. fascians*.

The plant material used by Mantel et al. for plant micropropagation are various and include callus tissues, cell, protoplast, seeds etc.. as recited in claim 6, from plant families such as Compositae, Salicaceae, Liliaceae, Gramineae etc.. as recited in claim 7.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C.103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over either one of Roussaux or Mantell; in view of Bhojwani et al. and Stange et al.

Roussaux teaches a method of shoot multiplication using bacteria as discussed above. Mantel et al. teach in vitro shoot multiplication using cytokinins which are produced by bacteria, as discussed above. Neither Roussaux nor Mantell teach a method wherein shoots are subjected to growth limiting conditions after multiplication. Bhojwani et al. teach a method of plant germplasm storage by cryopreservation as well as the advantages of the cryopreservation. Stange et al. teach that application of exogenous kinetin to pea plants resulted in altered development similar to that observed in plants infected by *Rhodococcus fascians* (p.407,col.2). Stange et al. also teach that *R. fascians* produces cytokinins including isopentenyl adenine and cis-zeatin (p.408, col.1). They suggested that bacterial synthesis of cytokinins was responsible for disease symptoms.

It would have been obvious to modify the method of Roussaux or Mantell by adding a step wherein the plant material is stored under growth limiting condition as taught by Bhojwani et al. One would have been motivated to do so, given the importance of germplasm conservation, as taught by Bhojwani et al. A reasonable expectation of success would have been indicated by Stange et al. who teach that application of exogenous kinetin to pea plants resulted in altered development similar to that observed in infected plants by *Rhodococcus fascians*. Therefore the skilled artisan would have expected that either bacteria or exogenous cytokinins could be used with similar results.

Thus, the invention as a whole was clearly *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The claims 1,2, 5, 8, 9, 10, are rejected under 35 U.S.C 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with it is most nearly connected, to make and/or use the invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically:

Claim 1 is incomplete because it lacks a step in which the objective set forth in the preamble is achieved.

Claims 1, 2, 3 and 8 are indefinite in their recitation of the word "outgrows" which is a verb used as a noun. The term "outgrowths" is suggested.

Claim 1 recites the limitation "the starting materials". There is insufficient antecedent basis for this limitation in the claim. Neither claim 1 nor the specification recites what "the starting materials" are.

Claims 8-10 are indefinite in the recitation "conventional growing condition". Neither claims 8-10 nor the specification define what the conventional growing condition is.

Claim 7 is indefinite because it recites a selected group of plant families and not plant genera as it is stated in the claim.

Future Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Annette H. Para whose telephone number is (703) 308-6327. The Examiner can normally be reached Monday through Thursday from 6:00 am to 4:30 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Bruce Campell, can be reached on (703) 308-4205. The fax number for the group is (703) 305-3041 or 308-4242.

Any inquiry of a general nature or relating to the status of this application should be directed to the Matrix Customer Service Center whose telephone number is (703) 308-0196.

BRUCE R. CAMPBELL, PH.D
SUPERVISORY PATENT EXAMINER
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Bruce Campell